WHAT IS CLAIMED IS:

1. An uninterruptible power supply system (UPS), comprising:

a rectifier for rectifying commercial alternating current (AC) power from an input terminal and converting the AC power into direct current (DC) power;

a charger for charging a battery with the DC power;

the battery for providing the DC power;

a DC-DC converter for boosting and/or dropping the DC power inputted from the battery by a predetermined level of the AC power;

a D-class amplifier for receiving the DC power from the DC-DC converter and outputting a sine waveform power signal in response to a waveform control signal;

a sine waveform controller for controlling a sine waveform generation operation of the D-class amplifier; and

a switching unit for switching the commercial AC power from the input terminal to a load in a normal mode, and switching the sine waveform power signal from the D-class amplifier to the load when an error of the commercial AC power is detected.

2. The UPS as set forth in claim 1, wherein the D-class amplifier comprises a bridge circuit for power

conversion, the bridge circuit comprising:

a first inductance device (L1) for high-frequency pass arranged on a path (A-L2) between a second inductance device (L2), arranged on a path for connecting a first node (A) and a second node (B), and the first node (A);

a third inductance device (L3) for high-frequency pass arranged on a path (L2-B) between the second inductance device (L2) and the second node (B);

a first capacitance device (C1) including one end thereof connected to a third node (C) arranged on a path (L1-L2) between the first inductance device (L1) and the second inductance device (L2), and the other end thereof connected to a ground side;

a second capacitance device (C2) including one end thereof connected to a fourth node (D) arranged on a path (L2-L3) between the second inductance device (L2) and the third inductance device (L3) and the other end thereof connected to the ground side; and

two load output terminals (X and Y) connected to both ends of the second inductance device (L2),

wherein the sine waveform controller performs a control operation so that a difference between a turn-on time of one pair of switching devices (SW1 and SW4) provided in the D-class amplifier and a turn-on time of the other pair of the switching devices (SW2 and SW3) provided in the D-class

amplifier can be generated and an output terminal (X or Y) can output voltage of the turn-on time difference every time a predetermined switching period is shorter than a commercial AC power period, and

wherein the sine waveform controller adjusts the turn-on time difference in each switching period, and performs a control operation so that the voltage outputted through the output terminal (X or Y) corresponds to sine waveform power equal to the commercial AC power.

3. A sine wave generation circuit for converting a waveform of direct current (DC) power stored in a battery into a waveform of commercial alternating current (AC) power and applying the commercial AC power, comprising:

a bridge circuit for sine wave generation, the bridge circuit comprising:

a first switching device (SW1) for receiving the DC power;

a second switching device (SW2) for receiving the DC power;

a fourth switching device (SW4) connected to the first switching device (SW1) through a path (A -> B) between a first node (A) and a second node (B);

a third switching device (SW3) connected to the second switching device (SW2) through a path (B -> A)

between the second node (B) and the first node (A);

a second inductance device (L2) arranged in the path (A-B) between the first node (A) and the second node (B);

a first inductance device (L1) for high-frequency pass arranged in a path (A-L2) between the first node (A) and the second inductance device (L2);

a third inductance device (L3) for high-frequency pass arranged in a path (L2-B) between the second inductance device (L2) and the second node (B);

a first capacitance device (C1) including one end thereof connected to a third node (C) arranged on a path (L1-L2) between the first inductance device (L1) and the second inductance device (L2), and the other end thereof connected to a ground side;

a second capacitance device (C2) including one end thereof connected to a fourth node (D) arranged on a path (L2-L3) between the second inductance device (L2) and the third inductance device (L3) and the other end thereof connected to the ground side; and

two load output terminals (X and Y) connected to both ends of the second inductance device (L2); and

a sine waveform controller for applying a sine wave generation control signal to the switching devices (SW1 ~ SW4), and performing a control operation so that one pair of

the first and fourth switching devices (SW1 and SW4) and the other pair of the second and third switching devices (SW2 and SW3) can alternately perform a turn-on/turn-off operation,

wherein the sine waveform controller performs a control operation so that a difference between a turn-on time of one pair of switching devices and a turn-on time of the other pair of switching devices can be generated and an output terminal (X or Y) can output voltage of the turn-on time difference every time a predetermined switching period is shorter than a commercial AC power period, and

wherein the sine waveform controller adjusts the turn-on time difference in each switching period, and performs a control operation so that the voltage outputted through the output terminal (X or Y) corresponds to sine waveform power equal to the commercial AC power.

4. The sine wave generation circuit as set forth in claim 3, further comprising:

a DC-DC converter for boosting and/or dropping the DC power inputted from the battery by a predetermined level of the AC power and inputting the boosted or dropped DC power into the bridge circuit for sine wave generation.